

THAT WHICH IS CLAIMED:

1. An HLA-A\*0201-binding ALK peptide selected from the group consisting of: SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 SEQ ID NO:7.

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2. A monoclonal or polyclonal antibody, or an active fragment thereof, that selectively recognizes an ALK peptide selected from the group consisting of the peptides set forth in SEQ ID NOS:1-7.

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3. A pharmaceutical composition comprising an ALK peptide according to claim 1 in combination with at least one pharmaceutically acceptable excipient.

4. The composition according to claim 3, in the form of a vaccine.

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5. A method for inducing a cytotoxic response against tumor cells expressing an ALK antigen, which comprises contacting T lymphocytes with a peptide according to claim 1 in suitable conditions for T lymphocyte activation.

6. The method according to claim 5, wherein the T lymphocytes are directly exposed to the peptide in culture.

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7. The method according to claim 5, wherein the peptide is previously bound to the HLA-A\*0201 molecule.

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8. The method according to any of claims 5-7, wherein the peptide comprises the amino acid sequence set forth in SEQ ID NO: 1 or 2.

5 9. An isolated antigen presenting cell carrying the ALK peptide according to claim 1.

10. The antigen presenting cell according to claim 9, wherein the cell is a dendritic cell.

10 11. An isolated T lymphocyte which selectively binds a complex of an HLA-class I molecule and an ALK peptide selected from the group consisting of SEQ ID NOS:1-7.

15 12. A method for treating a subject having a disorder characterized by the expression of an ALK antigen, which comprises administering to the subject an effective amount of an ALK peptide selected from the group consisting of SEQ ID NOS:1-7, or a functional variant thereof, or an amount of antigen presenting cell carrying such a peptide, or of autologous T lymphocytes specific for complexes of an HLA-A\*0201 molecule and a ALK peptide as above specified, or a functional variant thereof.

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13. The method according to claim 12, wherein the disorder is selected from the group consisting of: an ALK-positive lymphoma, a neuroblastoma and an ALK-expressing neoplasia.

25 14. The method according to claim 12, wherein the ALK peptide comprises

the amino acid sequence set forth in SEQ ID NO:1 or SEQ ID NO:2.

15. The method according to claim 14, wherein the peptide comprises the amino acid sequence set forth in SEQ ID NO:1 or SEQ ID NO:2.

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16. An isolated nucleic acid encoding an HLA-A\*0201-binding ALK peptide selected from the group consisting of SEQ ID NOS: 1-7.

17. An isolated nucleic acid encoding an HLA-A\*0201-binding ALK peptide set forth in SEQ ID NO:1 or SEQ ID NO: 2.

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18. A chimeric gene comprising the isolated nucleic acid of claim 16 under the control of a heterologous promoter.

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19. An expression vector comprising the chimeric gene of claim 18.

20. A host vector system for the production of a peptide which comprises the expression vector of claim 19 in a suitable host cell.

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21. A cell line comprising the chimeric gene of claim 18.